

Analysing the Psychosocial Effects of COVID-19 Pandemic on Dental Professionals Using the Turkish Version of the Fear of COVID-19 and Coronavirus Anxiety Scales

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Study protocol

The working conditions of dental professionals during dental procedures may cause them to experience a sense of fear and anxiety during the coronavirus disease 2019 (COVID-19) pandemic. The aims of this study were to (i) assess fear and anxiety of COVID-19 in a Turkish sample of dental professionals using the Turkish version of the FCV-19S and CAS, (ii) explore factors associated with scores on the FCV-19S and the CAS, and (iii) examine the psychometric properties of the Turkish FCV-19S and CAS through confirmatory factor analysis (CFA). The results of the present study could also inform future scientific studies on the psychological effects of COVID-19. The hypothesis of our study is that the levels of stress and anxiety may be high in dental professionals in Turkey due to their working conditions and the high risk of transmission.

For this study, ethical approval from Clinical Research Ethics Committee of Suleyman Demirel University Faculty of Medicine was obtained (2020/355). The study was conducted online in accordance with the Helsinki Declaration. Informed consent was obtained electronically before data were collected.

This cross-sectional study was conducted between October 16 and 23, 2020, during the normalization process. Data were collected by sending an online survey questionnaire to dentists working in public and university hospitals, including both general dentists and specialists. According to data on the Turkish Dentistry Association website, there were 15,597 professionally active general dentists and specialists working in public and university hospitals at the time of the survey. Considering 95% confidence intervals, an error of 2% and maximum heterogeneity, the estimated minimum sample size was 242. A pilot study (n=20) was conducted if any changes were required in questionnaire. The findings confirmed that there were no further changes required. A total of 850 dental professionals responded to the questionnaire. 37 participants with missing data were excluded from the study. Therefore, the study was concluded with a total of 813 participants.

The survey consisted of a questionnaire that included sociodemographic data (age range, gender, marital status, composition of household, systemic disease, professional area, years of clinical experience, number of patients treated daily, smoking status, alcohol consumption), epidemic-related questions, and scales measuring the fear and anxiety levels of the participants. In the last part of the survey, the levels of fear and anxiety were assessed by the FCV-19S and CAS.

Fear of COVID-19 Scale is an unidimensional scale seven-item scale assessing anxiety regarding COVID-19 developed by Ahorsu et al. (Ahorsu et al. 2020). Items are rated on a 5-item Likert scale from 1 (Strongly disagree) to 5 (Strongly agree) with scores ranging from 7 to 35. A higher score of the FCV-19S represents a greater level of fear. The internal consistency Cronbach's alpha was 0.82. In the study, both a bi-factor model (Ahorsu et al. 2020) and a two-factor model consisting of the emotional (items 1, 2, 4, and 5) and physiological factors (items 3, 6, and 7) were used (Reznik et al. 2020).

Coronavirus Anxiety Scale is an unidimensional tool that assesses the physiological anxiety related to the COVID-19 (Lee 2020). Participants rated 5 items on a 5-point Likert-type scale, from 0 (not at all) to 4 (nearly every day over the last 2 weeks). It has excellent robust reliability ($\alpha=.93$).

The adaptation, validity and reliability of the Turkish version of the FCV-19S were performed by Satıcı et al. (Satici et al. 2020) and CAS by Evren et al. (Evren et al. 2020).

Statistical Analysis Plan (SAP)

Statistical analyses were performed with SPSS version 26.0. (IBM). The descriptive statistics (frequency, percentages, mean, and standard deviation) were used to assess the participants' characteristics. A chi-square (χ^2) test was used to compare the association between gender (male vs. female) and work setting (public vs. university hospitals). As the numerical data were not normally distributed, the Mann–Whitney U test was used for the comparison of two groups and the Kruskal–Wallis test was used for the comparison of three or more groups in order to compare the median values used for the parameters examined in the study. The Bonferroni–Dunn test results are shown in Latin letters on mean ranks. $P<.05$ was considered as statistically significant.

Tests of normality (i.e., skewness and kurtosis), Cronbach's alpha coefficient (α), and inter-item and item-total correlations were estimated. The strength of the correlation was determined as; $r < .30$ was "weak," $r = .30-.59$ was "moderate," and $r \geq .60$ was "strong." (Andresen 2000). $P<.001$ was considered as statistically significant. An exploratory factor analysis (EFA) was conducted to test the structural validity of the models and to evaluate the interrelated basic dimensions of the items that comprise the scales. The suitability of the data for factor analysis was examined using the Kaiser–Meyer–Olkin (KMO) coefficient and the Bartlett Test of Sphericity. After the structural validity was tested with the EFA, confirmatory factor analysis (CFA) was used to test the suitability of the scale for the sample, since the observed variables in the scale were collected under more than one factor. The following indices of model fit were considered: chi-square test/degrees of freedom (χ^2/df), root mean square error of approximation (RMSEA), comparative fit index (CFI), goodness of fit index (GFI), Tucker–Lewis index (TLI), adjusted goodness of fit index (AGFI), standardized root mean square residual (SRMR), normed Fit Index (NFI), and relative fit index (RFI).